No. 9500043

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Clark Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF EIGHTEEN YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

ALFALFA

'Treasure'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirtieth day of June in the year of our Lord one thousand nine hundred and ninety-seven.

Attest:

Marsha A. Stanton
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Dan Glickman
Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and edition date on all reproductions.* OMB APPROVED NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(INSTRUCTIONS ON REVERSE)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)
Clark Seeds, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.
86-136

3. VARIETY NAME
Treasure

4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP)
9311 Hwy. 45
Nampa, Idaho 83686

5. PHONE (include area code)
(208) 466-6700

FOR OFFICIAL USE ONLY

PVPO NUMBER
9500043

FILING
Date: Nov. 22, 1994
Time
☐ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee:
$ 2,325.00
Date: Nov. 22, 1994
Certificate Fee:
$ 300.00
Date: June 2 1997

6. GENUS AND SPECIES NAME
Medicago sativa L.

7. FAMILY NAME *(Botanical)*
Leguminosae

8. CROP KIND NAME *(Common Name)*
Alfalfa

9. DATE OF DETERMINATION
November 29, 1993

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.)
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Idaho

12. DATE OF INCORPORATION
July 7, 1986

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Michael Peterson
W-L Research, Inc.
8701 W. US Hwy. 14
Evansville, WI 53536-8752

PHONE (include area code): (608) 882-4100

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow* **INSTRUCTIONS** *on reverse)*
- a. ☒ Exhibit A, Origin and Breeding History of the Variety
- b. ☒ Exhibit B, Novelty Statement
- c. ☒ Exhibit C, Objective Description of Variety
- d. ☒ Exhibit D, Additional Description of Variety
- e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership
- f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office 11/21/94
- g. ☒ Filing and Examination Fee ($2,325) made payable to "Treasurer of the United States"

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act)* ☐ YES *(If "YES," answer items 16 and 17 below)* ☒ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____).
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES (If "YES," GIVE NAMES OF COUNTRIES AND DATES) United States; February 1994
☐ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE
	President	11/21/94
SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE
	Vice-President	11/21/94

Exhibit A

Origin and Breeding History of Treasure

Treasure is a 250-plant synthetic variety resulting from phenotypic recurrent selection for resistance to anthracnose. Source material traces to two elite lines selected for resistance to bacterial wilt and Verticillium wilt and for agronomic appearance in an spaced-plant nursery. Subsequent selection was performed for resistance to Phytophthora root rot. Parental germplasm traces to AF 21 (40%), Vernal (20%), Vertus (20%), and WL 225 (20%). The 250 parental selections were grown in an isolation cage at Bakersfield, CA. Breeder (Syn 1) seed was bulked (all seed from all plants) following harvest in 1986.

Approximate germplasm source contributions are: M. falcata - 11%; Ladak - 16%; M. varia - 24%; Turkistan - 4%; Flemish - 40%; and Chilean - 5%.

Type and Frequency of Variants

No variants are recognized in Treasure beyond the limits given in Exhibit C.

Evidence of Uniformity and Stability

We have observed stability and uniformity in essential and distinguishing characteristics (e.g. disease resistance, insect resistance, fall dormancy, flower color) over two generations of Treasure seed increase: Syn 1 to Syn 2 and Syn 2 to Syn 3. Treasure is as uniform as other alfalfa varieties previously accepted by State seed certification programs.

Exhibit B

Novelty Statement on Treasure

Treasure is a fall dormant (Group 3) alfalfa variety that possesses superior winter-hardiness, yield potential, and pest resistance when compared to most alfalfa varieties with similar adaptation.

Treasure is most similar to WL 317, without qualification. Looking at overall pest resistance, plant color, regrowth after cutting, and winterhardiness suggests that Treasure and WL 317 are very similar. However, there are several characteristics which demonstrate that these two varieties are significantly different. Treasure is highly resistant to anthracnose; WL 317 is resistant (Table 1). Treasure is resistant to pea aphid; WL 317 is highly resistant to this insect (Table 2). Finally, Treasure is moderately resistant to stem nematode; WL 317 is resistant to this important nematode pest (Table 3).

There are five additional varieties which are similar to Treasure: Crown II, Arrow, DK 122, Clipper, and MultiKing 1. However, there are distinct and significant differences between Treasure and each of these varieties. Treasure is resistant to Phytophthora root rot; Crown II is highly resistant to this disease (Table 4). Treasure is a standard trifoliate type variety; Crown II is a multifoliate-type variety with approximately 46% expression on a per plant basis (Table 5). Finally, Treasure is moderately resistant to stem nematode; Crown II displays low resistance to stem nematode (Table 3).

Treasure is also similar to Arrow. However, Treasure is highly resistant to anthracnose, whereas Arrow displays moderate resistance to this disease (Table 1). In addition, Treasure is resistant to Phytophthora root rot; Arrow is highly resistant to this disease (Table 6). Finally, Treasure is resistant to the spotted alfalfa aphid; Arrow displays low resistance to this insect pest (Table 7).

Treasure is also similar to DK 122. However, Treasure is resistant to the spotted alfalfa aphid, whereas DK 122 displays only moderate resistance to this aphid (Table 7). In addition, Treasure is a Ranger (Group 3) type fall dormant variety, whereas DK 122 is a Vernal (Group 2) type fall dormant variety (Table 8). Treasure is resistant to Phytophthora root rot; DK 122 is highly resistant to this disease (Table 4). Finally, Treasure is highly resistant to Fusarium wilt; DK 122 is resistant to this disease (Table 9).

Treasure is also similar to Clipper. However, Treasure is a Ranger (Group 3) type fall dormant variety; Clipper is a Vernal (Group 2) type variety (Table 10). In addition, Treasure is highly resistant to anthracnose; Clipper is resistant to this disease (Table 1).

Treasure is also similar to MultiKing 1. However, Treasure is highly resistant to anthracnose, whereas MultiKing 1 is resistant to this disease (Table 1). In addition, Treasure is a standard trifoliate type variety; MultiKing 1 is a multifoliate type with approximately 61% expression on a per plant basis (Table 5). Finally, Treasure is resistant to the pea aphid; Multi-King 1 is moderately resistant to this insect pest (Table 11).

FORM APPROVED: OMB NO. 0581-005

EXHIBIT (Alfalfa

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK AND SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY

ALFALFA *(Medicago sativa* sensu Gunn et al.*)*

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Clark Seeds, Inc.	86-136	Treasure

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*

9311 Hwy. 45
Nampa, Idaho 83686

FOR OFFICIAL USE ONLY

PVPO NUMBER

9500043

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place numbers in the boxes to designate the expressions which are characteristic of the commerical generations of the application variety. Data for quantitative plant characters should be based on a minimum of 100 plants. Include leading zeros when necessary (e.g., [0][8][9]) for quantitative data. Comparative data should be determined from varieties entered in the same trial. Plant color may be precisely designated by using any recognized color chart, e.g., The Munsell Plant Tissue Color Charts.

1. WINTERHARDINESS:

[7] CLASS:

1 = Very Non-Winterhardy (CUF 101)
2 = Non-Winterhardy (Moapa 69)
3 = Intermediately Non-Winterhardy (Mesilla)
4 = Semi-Winterhardy (Lahontan)
5 = (Du Puits)
6 = Moderately Winterhardy (Saranac)
7 = (Ranger)
8 = Winterhardy (Vernal)
9 = Extremely Winterhardy (Norseman)

TEST LOCATION: Evansville, WI

2. FALL DORMANCY:

FALL DORMANCY (DETERMINED FROM SPACED PLANTINGS)

TESTING INSTITUTION AND LOCATION	DATE OF LAST CUT	DATE REGROWTH SCORED	REGROWTH SCORE OR AVERAGE HEIGHT				LSD .05
			APPLICATION VARIETY	CHECK VARIETIES*			
				Vernal	Ranger	Saranac	
W-L Research, Inc. Evansville, WI	9/88	10/88	8.5	6.5	9.0	10.6	1.1

* CUF 101, Moapa 69, Mesilla, Lahontan, Du Puits, Saranac, Ranger, Vernal, or Norseman as appropriate.

Specify scoring system used: Height in inches from a replicated spaced-plant nursery

[6] Fall Growth Habit (Determined from Fall Dormancy Trials)

(Ranger)

1 = Erect (CUF 101)
3 = Semierect (Mesilla)
5 = Intermediate (Saranac)
7 = Semidecumbent (Vernal)
9 = Decumbent (Norseman)

3. RECOVERY AFTER FIRST SPRING CUT (In Southwest, first cut after March 21):

[3]

1 = Very Fast (CUF 101)
3 = Fast (Saranac)
5 = Intermediate (Ranger)
7 = Slow (Vernal)
9 = Very Slow (Norseman)

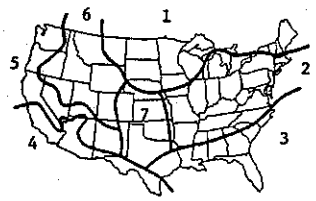
TEST LOCATION: Evansville, WI

4. AREAS OF ADAPTATION IN U.S. (Where tested and proven adapted):

[1] Primary Area of Adaptation

[2] [6] Other Areas of Adaptation

1 = North Central
2 = East Central
3 = Southeast
4 = Southwest
5 = Moderately Winterhardy Intermountain
6 = Winterhardy Intermountain
7 = Great Plains
8 = Other *(Specify)*



5. FLOWERING DATE (When 10% of plants possess open flowers at time of first spring cut):

[0][3] Days Earlier Than . . . . . [4]

Same As . Ranger . . . . [ ]

[0][3] Days Later Than . . . . . [3]

1 = CUF 101
2 = Mesilla
3 = Saranac
4 = Vernal
5 = Norseman

TEST LOCATION: Warden, WA

6. PLANT COLOR (Determined from healthy regrowth 3 weeks after first spring cut, controlling leafhoppers if necessary):

[2] 1 = Very Dark Green (524) 2 = Dark Green (Vernal) 3 = Light Green (Ranger)

COLOR CHART VALUE (Specify chart used): Munsell Color Charts, 1st Edition, 1952. Munsell Co., Baltimore,

APPLICATION VARIETY: 5/6

VERNAL: 5/6 (WL 252 HQ = 5/6; WL 322 HQ = 4/6)

TEST LOCATION: Evansville, WI - Measurements taken June 23, 1993; Leafhoppers controlled with insecti

7. CROWN TYPE (Determined from spaced plantings):

[1] Noncreeping Types: 1 = Broad (Vernal) 2 = Intermediate (Saranac) 3 = Narrow (CUF 101)

Creeping Types: 4 = Creeping Rooted (Rangelander) 5 = Rhizomatous (Rhizoms)

8. FLOWER COLOR (Determine frequency of plants for each color class as defined by USDA Agricultural Handbook No. 424 (Barnes 1972), allowing all plants in plot to flower):

[0 9 5] % Purple and Violet (Subclasses 1.1 to 1.4)

[0 0 5] % Variegated Other Than Blue (Subclasses 2.1, 2.2, 2.5 to 2.9)

[0] % Cream (Class 3)

[0] % Blue (Subclasses 2.3 and 2.4)

[0] % Yellow (Subclasses 4.1 to 4.4)

[0] % White (Class 5)

TEST LOCATION: Warden, WA

9. POD SHAPE (Determine frequency of plants with the following pod shapes produced on well cross-pollinated racemes):

[1 0 0] % Tightly Coiled (One or more coils, center more or less closed)

[0] % Sickle (Less than 1 coil)

[0] % Loosely Coiled (One or more coils, center conspicuously open)

TEST LOCATION: Warden, WA

10. PEST RESISTANCE: Provide in the appropriate column, trial data for application variety, and resistant (R) and susceptible (S) check varieties, synthetic generation tested, average severity index scores (ASI), least significant difference statistics (LSD .05), the institution in charge of test, year, and location of test, and whether test is a field or laboratory evaluation. Describe scoring system, and any test procedure which differs from standard methods proposed by Elgin (1982). Trial data from other test years or locations should be presented whenever available on a separate document as Exhibit D. Seeds of the check varieties and germplasm lines listed below can be obtained from the USDA Field Crops Laboratory, Bldg. 001, Rm. 335, BARC-West, Beltsville, MD 20705. Although comparisons with check varieties listed below are preferred, comparisons with any appropriate check variety recommended by Elgin (1982) may be presented.

A. DISEASE RESISTANCE: DISEASE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Anthracnose, Race 1 *(Colletotrichum trifolii)* (HR)	Application	1	62	154	---	% Resis. LSD (.05) 12	W-L Research, Inc. Highland, MD (1987
	~~Arc (R)~~ Saranac AR (R)		45	150	---		
	Saranac (S)		2	143	---		
	SCORING SYSTEM: Percent resistance based on seedling survival.						
Anthracnose, Race 2 *(Collectotrichum trifolii)*	Application						
	Saranac AR (R)						
	Arc (S)						
	SCORING SYSTEM:						
Bacterial Wilt *(Corynebacterium insidiosum)* (HR)	Application	2	55	161	1.19	0.41	W-L Research, Inc Evansville, WI (1
	Vernal (R)		42	157	1.63		
	~~Narragansett (S)~~ Sonora (S)		5	160	3.93		
	SCORING SYSTEM: Plants scored 0-5; 0 and 1 resistant and 5 = dead plant.						
Common Leafspot *(Pseudopeziza medicaginis)*	Application						
	MSA-CW3AN3 (R)						
	Ranger (S)						
	SCORING SYSTEM:						

10. A. PEST RESISTANCE (Continued):

DISEASE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION FIELD OR LABORATORY
Downy Mildew *(Peronospora trifoliorum)*	Application						
Isolate, if known:	Saranac (R)						
	Kanza (S)						
	SCORING SYSTEM:						
Fusarium Wilt *(Fusarium oxysporum f. medicaginis)*	Application	1	73	152	1.41	0.44	W-L Research, In
(HR)	~~Moapa 69~~ (R) Agate (R)		54	140	2.26		Highland, MD (19
	~~Narragansett~~ (R) MnGN-1 (S)		6	146	4.22		
	SCORING SYSTEM: Plants scored 0-5; 0 and 1 resistant and 5 = dead plant.						
Phytophthora Root Rot *(Phytophthora megasperma f. medicaginis)*	Application	1	48	230	---	% Resis. LSD (.05) 10	W-L Research, Inc
(R)	Agate (R)		43	230	---		Highland, MD (198
	Saranac (S)		3	215	---		
	SCORING SYSTEM: Percent resistance based on seedling survival.						
Verticillium Wilt *(Verticillium alboatrum)*	Application	2	39	247	3.15	0.26	W-L Research, Inc
(R)	Vertus (R)		40	250	3.05		Evansville, WI (1
	Saranac (S)		1	255	4.59		
	SCORING SYSTEM: Plants scored 1-5; 1 and 2 resistant and 5 = dead plant.						
Other *(Specify)* Aphanomyces root rot	Application	2	4	206	4.51	0.33	W-L Research, Inc
(S)	(R) WAPH-1		50	206	3.11		Evansville, WI (1
	(S) Agate		0	200	4.88		
	SCORING SYSTEM: Plants scored 1-5; 1 and 2 resistant and 5 = dead plant.						
Other *(Specify)*	Application						
	(R)						
	(S)						
	SCORING SYSTEM:						

B. INSECT RESISTANCE:

INSECT	VARIETY	SYN. GEN. TESTED	PERCENT DEFOLIATION	DEFOLIATION IN PERCENT OF RESISTANT CHECK	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION FIELD OR LABORATORY
Alfalfa Weevil *(Hypera postica)*	Application						
	Arc (R)			100			
	Saranac (S)						
	SCORING SYSTEM:						

10. B. INSECT RESISTANCE (Continued):

INSECT	VARIETY	SYN. GEN. TESTED	PERCENT SEEDLING SURVIVAL	NUMBER OF SEEDLINGS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Blue Alfalfa Aphid *(Acyrthosiphon kondoi)*	Application						
	CUF 101 (R)						
	PA-1 (S)						
	SCORING SYSTEM:						
Pea Aphid *(Acyrthosiphon pisum)* (R)	Application	1	47	190	3.4		W-L Research, Inc.
	Kanza (R)		45	195	3.4	0.4	Bakersfield, CA (19
	Ranger (S)		0	192	5.0		
	SCORING SYSTEM: Plants scored 1-5; 1 and 2 resistant and 5 = dead plant.						
Spotted Alfalfa Aphid *(Therioaphis maculata)* *Biotype, if known:* (H) (R)	Application	2	39	200	3.1		W-L Research, Inc.
	Kanza (R)		36	198	3.2	0.4	Bakersfield, CA (19
	Ranger (S)		0	198	5.0		
	SCORING SYSTEM: Plants scored 1-5; 1 and 2 resistant and 5 = dead plant.						

INSECT	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Potato Leafhopper Yellowing *(Empoasca fabae)*	Application						
	MSA-CW3An3 (R)						
	Ranger (S)						
	SCORING SYSTEM:						
Other *(Specify)*	Application						
	(R)						
	(S)						
	SCORING SYSTEM:						

C. NEMATODE RESISTANCE: NEMATODE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Northern Root Knot *(Meloidogyne hapla)*	Application						
	Nev. Syn. XX (R)						
	Lahontan (S)						
	SCORING SYSTEM:						

Table 1 > Anthracnose Resistance* - Evansville, WI (1994)

Entry	% Resistance
Treasure (HR)	63
Saranac AR (R)	52
WL 317 (R)	46
MultiKing 1 (R)	35
Clipper (R)	33
Arrow (MR)	19
Saranac (S)	2
Mean	36
LSD (.05)	8
CV %	18.1

*Data was obtained from a 4-replicate greenhouse flat test with approximately 45 seedlings/entry/replicate.

Table 2 > Pea Aphid Resistance* - Bakersfield, CA (1994)

Entry	% Resistance	A.S.I.
WL 317 (HR)	53	2.6
Treasure (R)	39	3.1
Kanza (R)	36	3.2
Ranger (S)	0	5.0
Mean	32	3.5
LSD (.05)	10	0.4
CV %	24	5.8

*Data was obtained from a 4-replicate greenhouse flat test with approximately 60 seedlings/entry/replicate.

Table 3 > Stem Nematode Resistance* - Warden, WA (1993)

Entry	% Resistance	A.S.I.
Vernema (HR)	57	2.5
WL 317 (R)	48	2.9
Lahontan (R)	47	2.9
Treasure (MR)	27	3.6
Crown II (LR)	10	4.2
Ranger (S)	4	4.4
Mean	32	3.4
LSD (.05)	10	0.3
CV %	23	6.2

*Data was obtained from a 4-replicate greenhouse flat test with approximately 50 seedlings/entry/replicate.

Table 4 > Phytophthora Root Rot Resistance* - Evansville, WI (1994)

Entry	% Resistance
DK 122 (HR)	61
Crown II (HR)	57
Treasure (R)	44
Agate (R)	36
Saranac (S)	0
Mean	40
LSD (.05)	10
CV %	19

*Data obtained from a 4-replicate greenhouse tub test with approximately 55 seedlings/entry/replicate.

Table 5 > Multifoliate Leaf Expression* - Evansville, WI (1994)

Entry	ML Expression** (% Plants)
MultiKing 1	61
Crown II	46
Legend	14
Treasure	0
WL 322 HQ	0
Mean	24
LSD (.05)	11
CV %	12.3

* Evaluation consisted of a spaced-plant nursery with four replicates, approximately 35 plants per replicate.

** Scoring system used: Percent of plants with at least one ML leaf.

Table 6 > Phytophthora Root Rot Resistance* - Evansville, WI (1993)

Entry	% Resistance
Arrow (HR)	59
Treasure (R)	45
Agate (R)	41
Saranac (S)	1
Mean	37
LSD (.05)	13
CV %	16

*Data obtained from a 4-replicate greenhouse tub test with approximately 50 seedlings/entry/replicate.

Table 7 > Spotted Alfalfa Aphid Resistance* - Bakersfield, CA (1994)

Entry	% Resistance	A.S.I.
Treasure (R)	39	3.1
Kanza (R)	36	3.2
DK 122 (MR)	21	3.7
Arrow (LR)	11	4.3
Ranger (S)	0	5.0
Mean	21	3.9
LSD (.05)	9	0.4
CV %	8	6.2

*Data obtained from a 4-replicate greenhouse flat test with approximately 60 seedlings/entry/replicate.

Table 8 > Fall Dormancy Reaction* - Evansville, WI (1993)

Clipped - 9/13/93
Scored - 10/22/93

Entry (Dormancy Group)	Fall Height (Inches)
Norseman (1)	2.7
Vernal (2)	4.6
DK 122 (2)	4.7
Treasure (3)	6.0
Ranger (3)	6.5
Saranac (4)	9.0
Mean	5.6
LSD (.05)	1.1
CV %	13.6

*Fall Dormancy was measured as natural plant height in a space-planted, four-replicate trial with approximately 45 plants/entry/replicate.

Table 9 > Fusarium Wilt Resistance* - Evansville, WI (1994)

Entry	% Resistance	A.S.I.
Treasure (HR)	71	1.45
Agate (R)	57	1.73
DK 122 (R)	48	2.13
MnGN-1 (S)	4	4.47
Mean	45	2.45
LSD (.05)	13	0.43
CV %	13.3	18.6

*Data was obtained from a 3-replicate space-planted field trial with approximately 60 plants/entry/replicate.

Table 10 > Fall Dormancy Reaction* - Warden, WA (1994)

Clipped - 9/16/94
Scored - 10/20/94

Entry (Dormancy Group)	Fall Height (Inches)
Norseman (1)	4.0
Vernal (2)	5.5
Clipper (2)	6.0
Ranger (3)	7.9
Treasure (3)	7.9
Saranac (4)	10.2
Mean	6.9
LSD (.05)	0.9
CV %	8.8

*Fall Dormancy was measured as natural plant height in a space-planted, four-replicate trial with approximately 45 plants/entry/replicate.

Table 11 > Pea Aphid Resistance* - Bakersfield, CA (1994)

Entry	% Resistance	A.S.I.
Treasure (R)	36	3.2
Kanza (R)	31	3.4
MultiKing 1 (MR)	20	3.8
Ranger (S)	2	4.8
Mean	22	3.8
LSD (.05)	11	0.4
CV %	26	6.2

*Data obtained from a 4-replicate greenhouse flat test with approximately 55 seedlings/entry/replicate.

10. C. NEMATODE RESISTANCE (Continued):

NEMATODE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Southern Root Knot *(Meloidogyne incognita)*	Application						
	Moapa 69 (R)						
	Lahontan (S)						
	SCORING SYSTEM:						
Stem Nematode *(Ditylenchus dipsaci)*	Application	2	30	174	3.4	0.3	W-L Research, Inc. Warden, WA (1991)
(MR)	Lahontan (R)		50	174	3.1		
	Ranger (S)		11	174	3.7		
	SCORING SYSTEM: Plants scored 1-5; 1 and 2 resistant and 5 = dead plant.						
Other *(Specify)*	Application						
	(R)						
	(S)						
	SCORING SYSTEM:						

11. INDICATE THE VARIETY THAT MOST CLOSELY RESEMBLES THE APPLICATION VARIETY FOR EACH OF THE FOLLOWING CHARACTERS:

CHARACTER	VARIETY	CHARACTER	VARIETY
Winterhardiness	WL 317	Plant Color	Arrow
Recovery After 1st Cut	Crown II	Crown Type	Arrow
Area of Adaptation	WL 317	Combined Disease Resistance	Clipper
Flowering Date	Arrow	Combined Insect Resistance	WL 317

REFERENCES

Barnes, D.K. 1972. A System for Visually Classifying Alfalfa Flower Color. U.S. Dep. Agric. Handb. 424. 18 pp. (Note: Greenish cast of plate 6, A and B is an artifact of printing, actual colors a blend of yellow and white.)

Elgin, J.H., Jr., (ed.). 1982. Standard Tests to Characterize Pest Resistance in Alfalfa Cultivars. U.S. Dep. Agric. Tech. Bull. (In Press).

Gunn, C.R., W.H. Skrdla, and H.C. Spencer. 1978. Classification of Medicago sativa L. using legume characters and flower colors. U.S. Dep. Agric. Tech. Bull. 1574. 84 pp.

Munsell Color Co. 1977. Munsell Plant Tissue Color Charts. Munsell Color Co., Inc. Baltimore.

NOTE: Any additional descriptive information and supporting documentation may be provided as Exhibit D.

Exhibit D

Additional Description of Variety

Treasure is a fall-dormant alfalfa variety adapted for use in the northeastern, north central, midwestern, and northwestern United States for hay, haylage, and dehydration purposes. Mid-summer growth is erect and fall growth is semi-erect.

Exhibit E

Statement of Applicant's Ownership

Treasure is a proprietary alfalfa variety which is wholly owned by Clark Seeds, Inc. 9311 Hwy. 45, Nampa, Idaho.

Applications for Plant Variety Protection on Treasure have not been filed in any other country.

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055 EXPIRES: 12-31-96

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Clark Seeds, Inc.	86-136	Treasure

4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)	5. TELEPHONE (Include area code)	6. FAX (Include area code)
9311 Hwy. 45 Nampa, ID 83686	208-466-6700	208-466-9074
	7. PVPO NUMBER PVP #9500043	

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country _____

10. Is the applicant the original breeder? If no, please answer the following: [ ] YES [X] NO

a. If original rights to variety were owned by individual(s):
Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country _____

[X] YES [ ] NO

b. If original rights to variety were owned by a company:
Is the original breeder(s) U.S. based company? If no, give name of country _____

11. Additional explanation on ownership *(If needed, use reverse for extra space):*

The original breeder of Treasure alfalfa, W-L Research, has signed over all ownershi rights to this variety to Clark Seeds, Inc. in exchange for financial considerations

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. **If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.**

2. **If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.**

3. **If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.**

The original breeder may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

STD-470-E (03-96)